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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/301,971	04/29/99	COPPENS M	VER-114XX

IM31/0312
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EXAMINER	
LANGEL, W	
ART UNIT	**PAPER NUMBER**
1754	8

DATE MAILED: 03/12/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
301971	Coppens
Examiner	**Group Art Unit**
Langel	1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to communication(s) filed on 1-31-01.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-8, 10 and 12-18 is/are pending in the application.

Of the above claim(s) 7, 8, 10, 12, 13, 17 and 18 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-6 and 14-16 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

Applicant's traverse of the restriction requirement has been considered, but is not deemed persuasive. Applicant's argument, that a search and examination of both Groups I and II can be (and has been) done without undue burden to the Examiner, is not convincing, since the examination process has not been completed. There is more involved in examining a patent application besides searching, such as formulating rejections and evaluating applicant's arguments and any relevant declarations. It is further noted that claim 1 is separate and distinct from claims 7-13, 17 and 18, since claim 1 does not require the detailed structure of the apparatus recited in claims 7-13, 17 and 18 in order to be carried out. For example, claim 1 does not require that the ratio of lengths of channels in successive generations of the network be related to "N" as recited in claims 7-13, 17 and 18. Claims 2-6 and 14-16 are separate and distinct from claims 7-13, 17 and 18 since claim 1 is evidence that claims 2-6 and 14-16 do not depend upon the details of claims 7-13, 17 and 18 for patentability. Accordingly the restriction requirement is made FINAL.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States

> before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 and 14-16 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kearney (U.S. Patent 5,938,333), of record). Kearney '333 discloses fluid conduits arranged as space-filling fractal structures, comprising an initiator conduit structure, including an initiator inlet in open communication with a first generation set of distribution conduits, each of which terminates in one of a set of first generation outlets. The first generation outlets comprise a first population located on a first side of a first generation reference plane and a second population located on a second side of the first generation reference plane. A second generation set of conduit structures of reduced scale compared to the first generation conduit

structure is connected structurally and in fluid flow relation to the first generation outlets. (See column 3, line 45 to column 4, line 58.) Applicant's argument, that the prior art fails to teach that fluid is discharged "from the channel exits substantially uniformly throughout the vessel volume", as required by applicant's claims, is not convincing, since Kearney '333 discloses at column 3, lines 32-34 that the exiting fluid is interspersed throughout the volume of a contained fluid into which the device is placed. Since the fluid is interspersed "throughout" the volume of the vessel, it would be "substantially uniformly discharged" throughout such vessel. Applicant's argument, that amended claims 1 and 4 recite that the vessel contain "at least two phases, each phase being a liquid, a gas, or solid particles", is not convincing, since such language does not require that the multiphase comprise at least two members selected from the group consisting of a liquid phase, a gas phase and a solid phase. Such language recited in applicant's claims does not exclude a multiphase system which includes two liquids, such as an organic phase and an aqueous phase. Such mixing of two separate phases of liquids would be inherent in the fluid mixing process of Kearney '333, or at least prima facie obvious therefrom.

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kearney '333. Kearney '333 is relied upon as

discussed hereinbefore. It would be prima facie obvious to scale up the process of Kearney '333 as recited in applicant's claim 6, since it would be expected that the process of Kearney '333 could be operated on a commercial scale as well as on a laboratory scale. It is further noted that claim 6 does not require that the multiphase system comprise at least two members selected from the group consisting of a liquid phase, a gas phase and a solid phase.

The Coppens Declaration filed on January 31, 2001 has been considered, but is not convincing of error in the rejection. Declarant states that the present invention provides for a considerable contribution with respect to scaling up, since this may surprisingly be done by simply keeping the parameters as recited in applicant's claims the same for the small scale and large scale process. However claims 1-5 and 14-16 do not require any scaling up from a small scale to a large scale process. Regarding claim 6, this claim does not require that the multiphase comprise at least two members selected from the group consisting of a liquid phase, a gas phase and a solid phase, but rather embraces two liquid phases as the multiphase, such as an organic phase and a liquid phase, which would be prima facie obvious over Kearney '333. There is no evidence on record of unexpected results which would emanate from the scaling up of the

process of Kearney when employing two liquids as the multiphase of Kearney '333.

Claims 1-6 and 14-16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1 and 4, it is indefinite as to whether the method requires that "each channel of said child generation may in turn be apparent for channels in a successive child generation . . .", since this limitation is in a "whereby" clause. The word "whereby" should be changed to --wherein-- to avoid this rejection. In all the claims, it is indefinite as to whether the term "multi-phase process" would require at least two members selected from the group consisting of a gas phase, a liquid phase and a solid phase, or whether it would embrace two separate liquid phases, such as an organic phase and a liquid phase.

This application apparently discloses allowable subject matter.

Any inquiry concerning this communication should be directed to Wayne A. Langel at telephone number (703) 308-0248.

Wayne A. Langel

WAYNE LANGEL
PRIMARY EXAMINER
GROUP 110

WAL:cdc
March 12, 2001